

POSTED WRITE BUFFERS AND METHOD OF POSTING WRITE REQUESTS IN  
MEMORY MODULES

ABSTRACT OF THE DISCLOSURE

A memory module includes a memory hub coupled to several memory devices. The memory hub includes a posted write buffer that stores write requests so that subsequently issued read requests can first be coupled to the memory devices. The write request addresses are also posted in the buffer and compared to subsequent read request addresses. In the event of a positive comparison indicating that a read request is directed to an address to which an earlier write request was directed, the read data are provided from the buffer. When the memory devices are not busy servicing read request, the write requests can be transferred from the posted write buffer to the memory devices. The write requests may also be accumulated in the posted write buffer until either a predetermined number of write requests have been accumulated or the write requests have been posted for a predetermined duration.